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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,897	06/20/2006	Jean-Luc Chambrin	12928/10032	7370

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EXAMINER	
PALABRICA, RICARDO J	

ART UNIT	PAPER NUMBER
3663	

MAIL DATE	DELIVERY MODE
10/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,897	CHAMBRIN ET AL.	
	Examiner	Art Unit	
	Rick Palabrica	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-18* is/are pending in the application.

4a) Of the above claim(s) *13 and 15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-12, 14 and 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's 7/16/08 Amendment, which directly amended claims 10and 16, submitted an amended specification and a replacement for Fig. 1, and traversed the rejection of claims in the 2/14/08 Office action is acknowledged.

Claims 10-12 14, 16-18 are examined in this Office action. Claims 13 and 15 continue to be withdrawn from consideration because they are directed to the non-elected invention (see 1/10/08 response to the 12/7/07 Restriction requirement).

Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 10-12, 14, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leclercq (U.S. 4,659,538) in view of Iacovino, Jr. et al. (U.S. 6,442,227). Leclercq discloses the applicant's claim limitations except for the specifics of the resilient bush.

Leclercq teaches a method and apparatus for limiting the hydraulic thrust of cooling water on a nuclear reactor fuel.

As to claims 10 and 16, Leclercq discloses in Fig. 1 a framework having a cluster of fuel rods 11 that are closed at ends by transverse end pieces 8 and 9, the end pieces having at least two axial through holes that each receive a centering pin 7 (see claim 1). Applicant reads claim language, "end piece", to include housing 18 (see Figs. 2 and 3).

The following statement of Leclercq is important for the subsequent discussion in this Office action:

> *"FIGS. 2 and 3 illustrate housings associated with the upper member of a not shown fuel assembly. However, it is obvious that the lower end members of the corresponding assemblies have identical, but downwardly directed means, which are of the same nature and function in a symmetrical manner. The following description and the claims for reasons of simplicity deal with the case where the said damping devices operate by the penetration of the centering pin and the removal of water, but it is obvious that this is not limitative and that the symmetrical operation by extracting the centering pins and the controlled inflow of water into the associated housings also forms part of the present invention." See col. 3, lines 27+.*

Thus, while these figures show the configuration for the upper piece of the fuel assembly, they equally apply to the lower piece of the assembly. Additionally, Leclercq further discloses a resilient bush 16 fixed inside a through-hole of an end piece of the fuel assembly (see Figs. 2 and 3). Leclercq does not teach the specifics of the claimed bush.

Iacovino, Jr. et al. teach a resilient bush (i.e., pin assembly 56) that is used to attach the foot of a sleeve assembly to a base plate 24 of a rack assembly (see Figs. 1-4). He further teaches this bush as comprising an annular member having a fixing portion (i.e., element 70), at least two flexible arms separated from each other by at least two apertures over another portion of the axial length of the resilient bush (i.e., elements 80), the portion of the bush comprising the flexible arms having an outer diameter that is smaller than the centering hole (see Fig. 4), and an annular supporting surface (i.e., element 76) that projects radially inside the bush in the free end portion of

the flexible arms. They teach that their bush arrangement provides for easy installation (see col. 1, lines 55+),

Note from Fig. 2 of Iacovino et al. that a portion of element 76 inherently projects inside the bush when the latter is installed in the aperture of base plate 24. Applicant has not defined the degree/extent of projection of the annular supporting surface and absent such definition, the examiner interprets the term broadly and reads it on any degree/extent of projection, as in the above Iacovino et al. configuration.

Note also that Iacovino et al, teach a resilient bush disposed at the bottom end of an element instead of at the top end. This teaching further reinforces the examiner's statement above that having a resilient bush in Leclercq's fuel assembly can be alternatively disposed on the lower piece (instead of the upper piece) of a fuel assembly, for purposes of providing an adequate support configuration.

Note that the primary and secondary references are in analogous art. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are concerned with the same problem of providing support to a long, vertically elongated nuclear component, immersed in a flowing water coolant.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process, as disclosed by Leclercq, by the teaching in Iacovino et al., use a resilient bush in the lower piece (instead of upper

piece) of the fuel assembly and have a bush configuration as recited in the claims, to gain the advantages thereof (i.e., allow easy installation), because such modification is no more than the use of a well known expedient within the nuclear art, and the substitution of one bush with another well known bush..

As to claims 11 and 12, welding is a well known method of attaching two metals to each other, and such method of attachment of the bush to the bottom end piece (which includes the housing and its aperture) would have been obvious to one of ordinary skill in the art at the time of the claimed invention.

As to claims 14 and 18, see Figs. 2 and 3 in Leclercq.

As to claim 17, the manner by which the diameter of the through holes is determined in a process limitation that makes the claim a product-by-process claim, which does not define over the applied art. As to product-by-process claims, MPEP 2113 states:

> "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777F.2d 695, 698, 227 USPQ 964, 966.

Still as to claim 17, applicant has not defined the term, "substantially greater", in the limitation, "through-holes of the end piece of the fuel assembly in which a resilient bush is fixed have a diameter that is substantially greater than the diameter of the centering pins." Absent such definition, the examiner reads the term broadly and reads

it on the bush/pin configuration of Leclercq that shows the through holes having a greater diameter than pin 7, particularly the conical portion of said pin.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 1, 2008

/Rick Palabrica/
Primary Examiner, Art Unit 3663